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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,052	01/07/2005	Xavier Fanton	255861US0PCT	2511
22850 7590 01/10/2012 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER BRAYTON, JOHN JOSEPH				
ART UNIT 1724		PAPER NUMBER		
NOTIFICATION DATE 01/10/2012		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/502,052

**Applicant(s)**

FANTON ET AL.

**Examiner**

John Brayton

**Art Unit**

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 1,2,5-18,20,21 and 23-28 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1,2,5-18,20,21 and 23-28 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-806)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_
- Paper No(s) Mail Date \_\_\_\_

**DETAILED ACTION**

***Claims Pending***

Claims 1, 2, 5-18, 20, 21, 23-28 are pending.

***Response to Amendment***

1. Applicant's arguments filed December 16, 2011 have been entered. No amendments to the claims were made. Applicant's arguments are responded to below.
2. A translation to Narita (JP 62-297451) is included in the application file.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Applicant is referred to the non-final rejection mailed September 16, 2011, incorporated herein, for detailed grounds of rejection. All rejections are maintained.

***Response to Arguments***

Applicant's arguments filed December 16, 2011 have been fully considered but they are not persuasive.

Applicant argues that the target is dense and oxygen deficient, and that these physical properties provide improved properties.

The Examiner notes that a specific target density or specific oxygen deficiency to provide said improved properties is not recited in the claims.

As recited in the Rule 132 declaration, Applicant argues that spray coating allows formation of targets with much higher densities.

Applicant's limitation that the target is formed by spray coating is regarded as a method of forming the target. Further, Applicant only recites that "a target being spray coated". No claim language defines what part of the target is spray coated, what the spray coating is, or how it affects the structure of the target. Additionally, it cannot be determined when the spray coating is applied, such as before, during or after the target is sputtered.

Applicant attempt to distinguish a spray coated target over a sintered coated target by way of the declaration under Rule 132 fails for the following reasons. The spray coating described in the declaration is a general one, no spray coating conditions are provided to achieve the declared target density of 95-97%. Regarding the density of the target, no specific density resulting in acceptable process stability is recited. It is not known how the process of a sprayed target is improved or better than a sintered target. No specific density regarding the acceptable level of micro arcs is recited, nor is an acceptable level of micro arcing defined in the declaration. In order to distinguish that the method of spray coating is patentable over a sintered target the Applicant must show that the differences are significant and unexpected. Merely saying one target is better than another does not rise to the level of being significant. No unexpected results are found in the improved spray coated target because targets with densities in the range declared by Applicant would be expected to have properties such as lower impurities, less arc discharge and quicker degassing. Therefore the Examiner must conclude that the evidence provided by the affidavit does not overcome the prima facie case of obvious set out in the rejections above.

Applicant argues that the present invention allows for greater stability when comparing a sputtered nickel target to a sputtered nickel oxide target of the present invention.

The Examiner is not persuaded because the prior art teaches Applicant's claimed substoichiometric target. Greater process control would be an inherent property because all claim limitations have been satisfied by the prior art set out in the rejections above.

Applicant argues that the spray coating limitation should be given patentable weight because spray coating results in a different product having improved properties.

The Examiner disagrees. A method of forming the device is not germane to the issue of patentability of the device itself. A product-by-process claim that describes the product that is the same as the prior art product is unpatentable even though prior art product is made by process different from that recited in claims. MPEP 2113. Therefore it would not be erroneous to deny this limitation patentable weight.

Additionally, claim 1 only recites a target being spray coated. There are no claim limitations that the target be spray coated with substoichiometric nickel oxide or any specific material. The limitation directed to spray coating only requires a target to be spray coated. For example, spraying the target with water would be equivalent to Applicant's claimed "target being spray coated" because the water when sprayed would coat the surface of the target. The water coating left at ambient temperature would evaporate leaving a target with no improved properties as a result of spray coating.

Therefore even if "spray coating" receives patentable weight, it would not as claimed, impart any improved properties alluded to in the declaration under Rule 132.

Applicant argues that running a magnetically enhanced sputtering device results in different properties.

First no specific properties are claimed or argued by Applicant. Therefore a response to Applicant's argument would be speculative because no identified properties are discussed. The Examiner finds that the magnetically enhanced sputtering device is only relevant in the fact that a target may be sputtered in such a device because the target only has to be "capable" of depositing a film. The Examiner takes the position that a magnetically enhance sputtering device is well known and taught by Lin cited above. Any skilled artisan would be capable of sputtering a target in a magnetic enhanced sputtering device. Applicant in the comparison of Example 1 (pg. 3, [0053]) and Lin (cited above) both indicate that carrying out a magnetic sputtering operation is routine.

Applicant argues that Narita and Takao targets differ from the oxygen deficient  $\text{NiO}_x$  of the claimed invention because the two materials are not chemically linked.

The Examiner disagrees because Applicant's substoichiometry depends from the intimate blending of nickel and nickel oxide powders. The Examiner cannot find factual support in Applicant's disclosure or claims that indicate Applicant's target achieves a covalent link or bond and encourages Applicant to submit factual support for their arguments.

Applicant submits that Narita and Takao's mixture would be expected to have different properties such as different conductivity.

The Examiner disagrees because when the structure recited in the reference is substantially identical to that of the claims the claimed properties or function are presumed inherent. MPEP 2112.01. Because the prior art exemplifies applicant's claimed oxygen deficient nickel oxide target, the claimed physical properties relating to the conductivity are inherently present in the prior art. Absent an objective showing to the contrary, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art of record, meeting the requirements of claims above.

Applicant argues that no evidence exists to indicate that Takao or Narita's result in a substoichiometric nickel oxide composition as recited in the claims because the powders have not reacted with one another.

The Examiner disagrees because no requirement that the powders react with one another is recited in the claims. Further Takao teaches the required substoichiometric NiO because it teaches blending nickel powders and nickel oxide powders. Takao's target is deficient in oxygen because there is nickel added to the target. This is identical to Applicant's disclosure filed July 30, 2004 on page 7, lines 13-15 which states that the lack of stoichiometry may stem from the composition of the intimate blend formed by nickel oxide powders and nickel powders, this embodiment is also recited in claim 2.

Narita teaches that some of the nickel powders are not oxidized and are enveloped inside a nickel oxide droplets (Translation of Narita pg. 7, items 3 and 6) leading to the conclusion of substoichiometric nickel oxide.

Applicant argues that Kida does not compensate for Takao and Lin's deficiencies because it does not teach a ceramic layer containing Ni, and Kida does not disclose a NiO ceramic layer.

In response to applicant's arguments against the Kida reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Brayton whose telephone number is (571)270-3084. The examiner can normally be reached on 7:30 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. B./  
Examiner, Art Unit 1724  
December 30, 2011

/Keith D. Hendricks/  
Supervisory Patent Examiner, Art Unit 1724